AYRES (S.C.)
FIVE CASES OF SYMPATHETIC OPHTHALMIA.

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REPORT OF FIVE CASES.

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FIVE CASES OF SYMPATHETIC OPHTHALMIA.

Reported by Dr. S. C. AYRES, of Cincinnati, O.

The question of the cause, development, and relief, or prevention of sympathetic ophthalmia, is one of deep interest to every specialist. This disease is often so slow and insidious, that it has developed its full force before the patient becomes alarmed and applies for advice. At other times it develops with wonderful rapidity, and goes on to total destruction of the eye, apparently regardless of all attempts to check it. It is, without doubt, one of the most intractable and destructive diseases we have to deal with, and can profitably be studied in all its different phases. It is the sword of Damocles hanging over the head of nearly every patient who has been so unfortunate as to lose one eye, threatening destruction of its fellow. How to avert its deadly fall is the question of vital importance.

We are particularly warned against the dangers of sympathetic inflammation in cases where a foreign body has penetrated one eye, but it is a question whether such cases are in fact more likely to be followed by this fatal disease than other wounds. My observations lead me to conclude that punctured and incised wounds, involving the cornea, iris, and ciliary body, are, in general, more productive of sympathetic trouble than foreign bodies remaining within the eye.

In thirty-five enucleations made by Dr. Williams and myself, for foreign bodies within the eye, only *one* case of sympathetic inflammation occurred. In these cases the foreign bodies had remained in the eye during different periods, varying from one day to twenty-three years. In all of them sympathetic irritation, photophobia, lachrymation, spasm of accommodation, and diminished acuity of vision were present to a greater or less extent, but in none (with the exception of *one* case) was there plas-

tic iritis or irido-cyclitis. All of the thirty-four cases recovered with good vision in the uninjured eye, and there has been no subsequent trouble so far as heard from.

I have excluded from this report many cases of probable sympathetic inflammation which were not seen until after the inflammatory process had exhausted itself and both eyes were blind.

In some of these the history was too unsatisfactory to be recorded, while at the same time the probabilities were in favor of the loss of the uninjured eye by sympathy.

The cases reported below were seen during the acute stages of inflammation, and the histories are clear in regard to the injuries.

Case 1.—Injury of the right eye by the beak of a bird. Sympathetic inflammation of the left eye in nine months, and loss of vision.

W. M. M., æt. 9, a bright, healthy boy, met with the unfortunate accident which caused the loss of his eyes in the following remarkable manner, as related by his father. He was standing near a cage in which a wild bird of the crane species, recently captured, was confined, and while the boy was looking through the bars the bird struck him with his beak. The wound inflicted was in the upper and outer quadrant of the cornea, crescentic in shape, and about 2‴ in length. He suffered but little pain after the injury, although there was probably a prolapse of the iris and traumatic cataract. He retained perception of light for about four months, when it failed entirely.

His father first noticed, in July, 1875, four months after the injury, that the sight of his sound (left) eye was not quite as good as usual, but the symptoms were not severe enough to excite his fear of any threatened trouble, and it was not until December, eight months after the injury, that he became fully convinced that his left eye was sympathetically affected.

At this time the injured eye became red and irritable, and, at the same time, the left eye began to fail very perceptibly, and he was soon unable to read. Since then it has gradually failed, and he is now only able to count fingers at 4′ and read Sn. 20 at 2″.

Status præsens.—Right eye: Eyeball diminished in size, T—2, cornea flattened, sclerotic injected, corneal diameter diminished, complete anterior synechiæ, anterior chamber obliterated, eye tender to pressure. Left

eye: Normal in size, T—1, pinkish zone around cornea, complete posterior synechiæ, iris dirty, rusty color. There is a dense, false membrane in the pupil.

Enucleation of injured (right) eye advised, and performed March 22, 1876.

March 23d.—Says that he sees objects much more distinctly than he could yesterday. Counts fingers promptly at 7′.

The enucleated eye was examined by making a meridional section through the sclerotic. The vitreous was entirely disorganized. The ball was filled with a fluid of a dark amber color, in which were floating numerous roundish, blood coagula. The retina was stretched like a cord from the optic papilla forward to a roundish mass which had developed behind the cornea. The growth was as large as a small hazel nut, and its surfaces were convoluted with here and there minute ecchymoses on the surface. It seemed to have developed from the iris and ciliary body. The lens was entirely absorbed; only a portion of its thickened capsule remained. The ciliary processes on the injured side of the cornea were atrophied and seemed to have become a part of the neoplasm.

April 5th.—Case progressing favorably. He now walks around without stumbling, and without assistance. Vision is about $\frac{6}{100}$, and he spells Sn. No. 20 at $3\frac{1}{2}''$. He counts fingers in a moderately lighted room at 8′. Pupil slightly dilated.

May 10th.—His father reports that his vision is not as good as it was last month. He sees with difficulty to go around, and it is quite evident that degeneration of the eye is going on.

Case 2.—Injury of right eye by fragment of iron ore, sympathetic inflammation in nine weeks, and loss of vision.

W. R. R., æt. 46, laborer in an iron furnace, gave the following history of his case: In the latter part of October, 1875, he was breaking a piece of iron ore with a sledge hammer, when a small fragment flew off and struck the right eye. He had pains in the eye for a while, but soon recovered, and since then has suffered but little from it. There has always been a tender place on the upper portion of the globe, over the ciliary body, and the patient winces when it is touched.

Vision was immediately destroyed by the injury.

Status præsens.—Eye shrunken and T—1.

The inner and lower quadrant of the cornea is flattened, and presents a white, cicatrized appearance. The remainder of the cornea is transparent and the iris is seen through it, and lying in contact with it.

The pupil is filled with the opaque capsule of the lens.

The conjunctiva immediately around the cornea and the subconjunctival tissue are injected, and the sclerotic has a dirty, yellowish appearance.

He could see with the left eye until about the 1st of January, 1876. He then noticed that his sight was gradually failing, that objects in the distance were becoming indistinct; but still he suffered no pain. He has had constantly an appearance of "drops of water" before this eye.

He continued work until the latter part of January, when he had to stop. Since then his sight has rapidly failed, and for the last few days he has had to be led around. He sees only shadows of the hand in front of the eye. The pupil is closed and contracted, and filled with a dense, false membrane. There is considerable ciliary injection, but the globe is not tender to pressure. T + 1.

An instillation of atropine was made, after which he was able to count fingers at 6″.

Left eye enucleated March 16.

He was ordered the Bichlo. Hydrar., $\frac{1}{16}$ gr. twice a day, and $\frac{1}{2}$ ʒ. ung. Hydrar. to be rubbed into the skin at bedtime.

March 4th.—Counts fingers at 4′ and sees a ring on my finger. The patient is poor and had to return home. The Bichlo. Hydrar. to be continued at home.

May 16th.—Patient has lost ground since he went home. A friend writes that he does not see as well as when he left the hospital. Can still see shadows, but it is evident that vision is gradually failing, and the eye will probably undergo atrophy.

Case 3.—Injury of right eye by fragment of coal, sympathetic inflammation in the other in five weeks, total loss of sight.

C. B., æt. 5, received an injury of the right eye, August 29, 1875, by a piece of coal thrown at her. It inflicted a triangular wound in the cornea, and ruptured the capsule of the lens. There was prolapse of the iris, which was drawn out and snipped off. Suppurative irido-choroiditis rapidly supervened. The patient was a delicate, strumous child, and her confinement to the house and her sufferings told decidedly on her strength; still, with the aid of tonics and good diet she was kept up.

Her left eye remained entirely free from all symptoms of sympathetic inflammation until the latter part of September. The mother had been instructed to bring the child every two or three days, but at this time had failed to do so for more than a week. When seen, October 6, after this

long absence, the anterior chamber of the left eye was more than half full of lymph and pus, and the iris could scarcely be seen at all owing to the turbidity of the aqueous. Vision was reduced to bare perception of light.

Enucleation of the right (injured) eye was now advised, and consented to by the parents of the little girl.

In four or five days after the operation the left eye began to clear up, and steadily improved until the pupil and iris could be seen, and the child was able to go about the room alone and pick her playthings up.

This encouraging state of affairs lasted only a few days, when the eye grew rapidly worse, and in a short time vision was entirely gone. The ball became partly atrophied (April, 1876), and the cornea flattened and opaque. The pain and photophobia disappeared, and the child's eye became comfortable, but vision was nil.

In this case, although the enucleation was made within a few days after the symptoms of sympathetic inflammation began to manifest themselves, yet it had no effect in arresting the disease. If the mother had obeyed instructions, and brought the child in every two or three days, it might have made a difference in the treatment, but this is at least doubtful.

Case 4.—Injury of left eye by the blade of a pocket-knife. Sympathetic trouble in six weeks and loss of vision.

T. H., æt. 5, a beautiful, healthy boy, met with the unfortunate accident which caused his blindness, in the following manner: He was leaning over his brother's shoulder, who was at the time cutting a string with his penknife. As soon as the string was severed, the knife, carried upward by the impulse, penetrated the left eye at the outer margin of the sclerotic and directly over the ciliary body, but did not wound the lens. The cicatrix was situated in the horizontal meridian of the eye, commencing at the sclero-corneal margin and extending outward about 2‴ in length. The eye is normal in size—pupil blocked up by dense, false membrane—anterior chamber very shallow.

The pupil is oval, showing that the anterior chamber must have been opened by the wound. Vision is entirely lost.

About six weeks after this injury was received the right eye began to fail. He never complained of it or suffered pain in it, but his parents noticed that he could not see well. The impairment of vision gradually increased, and at the present time he is barely able to see letters of 20 Sn. at 4″. There is complete posterior synechiæ, the pupil is contracted and

blocked up by false membrane, anterior chamber very shallow, but the T was not diminished. While the iris was discolored, yet it was not vascular, and it was supposed that an attempt at iridectomy would be followed by favorable results.

The injured eye was first enucleated, in the hopes that it would remove the source of irritation and give the other eye a better chance.

Sectio Oculi.—A meridional section of the eye was made, and the vitreous was found partly liquefied and of a pale straw color; the anterior portion, however, retained its normal consistency. Lying directly below the cicatrix was found a clot of blood about the size of a bird shot. The lens was transparent and *in situ*, showing that the knife had passed directly backward without wounding it.

July 30, 1873. Iridectomy made in left eye. The iris was so firmly adherent to the capsule of the lens that it was impossible to remove much, but a small piece was excised. Hemorrhage from the iris interfered with the operation, and the anterior chamber was soon so full of blood that the iris could not be seen.

July 31. No pain in eye; wound healed; anterior chamber still filled with blood.

August 4. Blood nearly all absorbed; coloboma visible; lens covered with pigment from iris; counts fingers at 4″.

Patient now went home with instructions to his father to keep him quiet, and not expose the eye to bright light, and to use atropine.

Returned September 29th, in excellent physical condition. His eye, however, has not improved, and it is quite evident that degeneration of the globe is going on. Tension 1, eyeball flattened at point of incision for iridectomy, iris vascular and in contact with cornea, pinkish zone of injection around cornea, vision reduced to perception of shadows of hand. Was seen afterward in November, when the eye presented very much the same appearance as at the previous examination—V = perception of shadows.

Case 5.—Rupture of sclerotic of the right eye and recovery of good vision. Sympathetic inflammation in left eye and loss of vision.

E. W. M., æt. 38, has in some respects a very remarkable case. He gave the following history: On the night of January 2, 1875, he had occasion to go out to the pump for water. The handle happened to be up, and as the night was dark, he ran against it. It struck the outer

side of the ball, and stunned him severely. Vision was immediately so impaired that he could only distinguish light from darkness.

He treated the injury with cold applications, and in a short time was relieved of pain.

In about six weeks his left eye began to fail. It commenced gradually with a foggy appearance before it, which grew thicker, and in about one month he was only able to distinguish the motions of his hand. The progress of this inflammation was attended with pain in both eyes, but particularly in his left.

He is a delicate-looking man, and as it is now (April 6, 1875), three months since the injury was received, he presents an anæmic appearance, owing to his close confinement and suffering.

Status præsens.—The right eye has suffered a rupture of the sclerotic inwards, *opposite the point where the pump-handle struck the eyeball.* It extends fully one-third around the globe, and is situated in the usual place between the margin of the cornea and the insertion of the rectus muscle. The conjunctiva on the inner half of the globe presents a bluish-black appearance from the amount of blood extravasated under it. Under the conjunctiva, between the cornea and the caruncle, is a roundish elevation which is evidently the dislocated lens. The anterior chamber appeared very deep, and a small segment of the iris can only be seen downwards, the rest of it having disappeared entirely.

The media are turbid, but a faint red reflex can be seen from the fundus. V=shadows of hand. Eye free from pain, and no photophobia.

In the left eye, the pupil was filled with dense, false membrane, there was complete posterior synechia, the anterior chamber was very shallow, the iris appearing almost in contact with the cornea, and there was a zone of injection around the anterior portion of the globe. Within the past week he has had but little pain in it. He can barely see shadows of the hand.

He was ordered to the hospital, where he was instructed to remain quietly in a darkened room, but was allowed to take gentle exercise in the hall when the light was not too strong. He was placed upon the use of *Hydrarg. Bichlo. gr.* $\frac{1}{16}$, and *Tinct. Cinch. Comp.*, ʒj. *bis die.* Instillations of *Sulph. Atrop.* were made three to four times daily.

His injured eye began very soon to show signs of improvement. In three or four days he could count fingers at 1′, and in a week at 4′. He was first tested with Snellen's test type, April 19th, when, with $+3\frac{1}{4}$, his V=$\frac{15}{lxx}$ almost, and he was able to read Sn. No. 6 with $+2\frac{1}{2}$.

His left eye also improved some. The pupil dilated very slightly up-

ward, and he could count fingers at 8″. The iris assumed a more healthy color, and the ciliary injection almost disappeared.

He was now allowed to return home, but was required to keep up the treatment as above until his return.

May 7. Injured eye (right) much improved in appearance. Blood under conjunctiva has almost disappeared, tension of globe normal and vitreous clear. V=$\frac{15}{xl}$ and reads Sn. 2½.

His left eye is hardly as good as when he left here—still it is not painful and there is no indication for interference.

Aug. 21, '75. During the last three months the right eye has remained unchanged and vision is as good as when last tested. He has no pain in it and with his glasses he sees very satisfactorily. The left eye however has grown worse. There is intense ciliary injection. The tension is increased. Pupil closed with lymph, and iris bulging forward almost in contact with the cornea.

An iridectomy was made by Dr. Williams in hopes that it would arrest the inflammation and that the eye would at last become quiet, even if no improvement in vision resulted. Owing to the fact that the iris was adherent to the capsule of the lens, there was great difficulty in drawing it out, but after several attempts a small portion was removed.

The final result of the operation, April 30, '76, has been that the tension of the eye is now about normal, the ciliary injection has disappeared, and the eye is free from pain, but vision is practically nil.

In an analysis of these cases we note the following points of interest:

In three of them, 1, 2, and 3, the wound was in the cornea and was complicated with prolapse of the iris and traumatic cataract.

In one, case 4, it was situated at the sclero-corneal junction, opening the anterior chamber and causing prolapse of the iris but *not* wounding the lens, and in case 5 there was rupture of the sclerotic with dislocation of the lens under the conjunctiva.

The periods at which sympathetic inflammation developed were as follows: In case 3 at five weeks, in cases 4 and 5 at six weeks, in case 2 at nine weeks, and in case 1 slight symptoms at four months, but none severe until nine months after injury.

In case 3 enucleation of the injured eye was made within a

few days after development of sympathetic trouble, but it had no more influence in arresting the fatal disease than it did in cases 1, 2 and 4, where it was made a few weeks later. The operation seems to have had no effect in retarding or modifying the progress of the disease in any of these cases.

One striking feature in these cases is the freedom from pain in all, with the exception of No. 5, and this may be partly accounted for by the fact that he was a man of nervous temperament, and fully alive to his dangerous condition.

As after-treatment is generally unavailing, we are forced to look to a *preventive* treatment to escape the results of this apparently intractable disease. This must consist in an iridectomy, if made soon after the injury, taking particular care to free the wound of imprisoned iris, and at the same time to remove as much of the lens as possible, when it has been injured. In connection with this we must enforce rest of the eye as well as the body. Use cold externally, atropine, anodynes and in some cases tonics or alteratives as may be indicated.

If plastic iritis or irido-cyclitis has set in, all operative interference, excepting enucleation, may be contra-indicated, and this latter, if the eye is severely injured and likely to become blind, or if any evidences of sympathetic trouble manifest themselves, must be insisted on.